

CLAIMS:

1. A process for regenerating a spent aromatics alkylation or
5 transalkylation catalyst comprising a molecular sieve, the process
comprising the steps of contacting the spent catalyst with an oxygen-
containing gas at a temperature of about 120 to about 600°C and then
contacting the catalyst with an aqueous medium.
- 10 2. The process of claim 1 wherein said aqueous medium is selected
from the group consisting of an ammonium nitrate solution, an ammonium
carbonate solution and an acetic acid solution.
- 15 3. The process of claim 1 wherein the step of contacting the catalyst
with an aqueous medium is conducted at a temperature of about 15 to about
120°C for a period of about 10 minutes to about 48 hours.
- 20 4. The process of claim 1 wherein, after contacting with the aqueous
medium, the catalyst is calcined at a temperature of about 25 to about
600°C for a period of about 10 minutes to about 48 hours.
- 25 5. A process for alkylating an aromatic compound comprising the
steps of:
(a) contacting an alkylatable aromatic compound and an
alkylating agent with an alkylation catalyst comprising a molecular sieve
under alkylation conditions; and
(b) when said alkylation catalyst has become at least partially
deactivated, contacting said alkylation catalyst with an oxygen-containing
gas at a temperature of about 120 to about 600°C; and then
30 (c) contacting the catalyst from step (b) with an aqueous medium.
6. The process of claim 5 wherein the contacting step (a) is conducted
in the liquid phase.

7. The process of claim 5 wherein the alkylating agent includes an alkylating aliphatic group having 1 to 5 carbon atoms.
- 5 8. The process of claim 5 wherein the alkylating agent is ethylene or propylene and the alkylatable aromatic compound is benzene.
9. The process of claim 5 wherein the molecular sieve of the alkylation catalyst of step (a) is selected from MCM-22, PSH-3, SSZ-25, MCM-36,
10 MCM-49, MCM-56, faujasite, mordenite and zeolite beta.
10. The process of claim 5 wherein said aqueous medium is selected from the group consisting of an ammonium nitrate solution, an ammonium carbonate solution and an acetic acid solution.
- 15 11. The process of claim 5 wherein the step of contacting the catalyst with an aqueous medium is conducted at a temperature of about 15 to about 120°C for a period of about 10 minutes to about 48 hours.
- 20 12. The process of claim 5 including the further step, after step (c), of calcining the catalyst at a temperature of about 25 to about 600°C for a period of about 10 minutes to about 48 hours.